

Serial No.: 10/750,795
Examiner: Knowlin Thjuan Addy

CLAIMS

1. (previously presented) A presence notification method, in a system comprising a private branch exchange (PBX), a first PBX phone and a computer associated with the first PBX phone, with the computer including a PBX Messaging Integration Client (PMIC) capable of placing and answering PBX calls without a PBX phone, routing incoming calls directed to PBX extensions to other devices, forwarding calls away from PBX phones to other devices, and placing calls on hold, with the PMIC associated with an individual, the presence notification method comprising the steps of:

receiving at the computer from the PBX a first message indicating an off-hook state of the first PBX phone;

consulting a subscriber table including an identity of one or more presence-state subscribers; and

transmitting a second message to at least one of the one or more presence-state subscribers indicating the off-hook state of the first PBX phone.

2. (previously presented) The presence notification method of claim 1, wherein the computer is resident in an Internet Protocol (IP) network.

3. (original) The presence notification method of claim 1, wherein the second message is a presence-state message.

Serial No.: 10/750,795
Examiner: Knowlin Thjuan Addy

4. (original) The presence notification method of claim 3, wherein the presence-state message is a session initiation protocol (SIP) instant message.
5. (original) The presence notification method of claim 1, wherein first message is a computer telephony integration (CTI) event message.
6. (original) The presence notification method of claim 5, wherein the CTI event message is generated using a protocol selected from the group consisting of: Telephony Application Programming Interface (TAPI) protocol, Telephony Services Application Programming Interface (TSAPI) protocol, and the Computer Supported Telecommunications Applications (CSTA) protocol.
7. (original) The presence notification method of claim 5, wherein the CTI event message is received indirectly via a CTI server.
8. (original) The presence notification method of claim 1, wherein second message is an on-phone presence-state notification message.

Serial No.: 10/750,795
Examiner: Knowlin Thjuan Addy

9. (original) The presence notification method of claim 1, wherein the method further comprises, prior to the receiving step, the step of transmitting to the PBX a registration event message comprising a network address for the computer interface.

10. (original) The presence notification method of claim 1, wherein the method further includes the steps of: receiving from the PBX a third message indicating an on-hook state of the first PBX phone; and transmitting a fourth message to at least one of the one or more presence-state subscribers indicating the on-hook state of the first PBX phone.

11. (previously presented) A media session method for a first computer operatively coupled to a system comprising a private branch exchange (PBX) and a second computer, wherein the first computer is associated with a first PBX phone and the second computer is associated with a second PBX phone, with each of the first computer and the second computer including a PBX messaging integration client (PMIC) capable of placing and answering PBX calls without a PBX phone, routing incoming calls directed to PBX extensions to other devices, forwarding calls away from PBX phones to other devices, and placing calls on hold, the concurrent media session method comprising the steps of:

receiving a first message signifying that the second PBX phone is calling the first PBX phone;

transmitting a second message from the first computer to the second computer requesting a media session;

Serial No.: 10/750,795
Examiner: Knowlin Thjuan Addy

determining whether the media session request has been accepted; and
establishing a media session between the first computer and the second computer if
the session request message has been accepted.

12. (previously presented) The media session method of claim 11, wherein the first
message comprises an extension number associated with a second PBX phone used by the
first computer to generate the second message.

13. (original) The media session method of claim 12, wherein the second message
comprises a universal resource identifier with an extension number of the second PBX
phone.

14. (original) The media session method of claim 11, wherein the media session is a
concurrent media session conducted in parallel with telephonic communication between
the first PBX phone and the second PBX phone.

15. (original) The media session method of claim 11, wherein the media session is
selected from the group consisting of: an instant message session, a text chat session, a
multimedia session, a computer GUI interface sharing session, and a combination thereof.

Serial No.: 10/750,795
Examiner: Knowlin Thjuan Addy

16. (original) The media session method of claim 11, wherein the media session is a SIP session.
17. (original) The media session method of claim 11, wherein the media session is a text chat session.
18. (previously presented) The media session method of claim 17, wherein the users at the first computer and second computer may manually escalate from the text chat session to a second media session.
19. (original) The media session method of claim 11, wherein the first message is a CTI event message.
20. (original) The media session method of claim 11, wherein the step of determining whether the media session request has been accepted comprises the step of receiving an SIP OK message.
21. (previously presented) A call routing method for a system comprising a private branch exchange (PBX), a first PBX phone and a computer associated with the first PBX phone, the computer including a PBX Messaging Integration Client (PMIC) capable of placing and answering PBX calls without a PBX phone, routing incoming calls directed to

Serial No.: 10/750,795
Examiner: Knowlin Thjuan Addy

PBX extensions to other devices, forwarding calls away from PBX phones to other devices, and placing calls on hold with the PMIC associated with an individual, the call routing method comprising the steps of:

receiving from the PBX a first message indicating an incoming call to the first PBX phone;

determining from a call routing table maintained by the first computer an incoming call response to the incoming call; and

transmitting from the PMIC to the PBX a group of one or more messages based on the incoming call response.

22. (original) The call routing method of claim 21, wherein the group of messages comprises a message answering the incoming call.

23. (original) The call routing method of claim 21, wherein the group of messages comprises a message causing the PBX to discontinue a ring signal to the first PBX phone.

24. (original) The call routing method of claim 21, wherein the group of messages comprises a message causing the PBX to transfer the incoming call to a second PBX phone.

Serial No.: 10/750,795
Examiner: Knowlin Thjuan Addy

25. (previously presented) The call routing method of claim 21, wherein the group of messages comprises a message causing the PBX to transfer the incoming call to the first computer.
26. (previously presented) The call routing method of claim 25, wherein the method further includes the step of establishing a voice-over-IP session between the PBX and the first computer.
27. (original) The call routing method of claim 21, wherein the group of messages comprises a message causing the PBX to transfer the incoming call to a client.
28. (original) The call routing method of claim 27, wherein the client is a SIP user agent operatively coupled to the system.
29. (original) The call routing method of claim 21, wherein the group of messages comprises a message causing the PBX to terminate the incoming call and transmit an instant message.
30. (previously presented) The call routing method of claim 29, wherein the instant message is directed to a second computer identified based upon a phone number associated with the incoming call.

Serial No.: 10/750,795
Examiner: Knowlin Thjuan Addy

31. (original) The call routing method of claim 21, wherein the call routing table comprises call processing rules structured as a function of the time and the day the incoming call is received, the telephone number or extension associated with the incoming call, and the presence-state of the user associated with the first PBX phone.

32. (previously presented) A call transfer method for a first computer operatively coupled to a system comprising a private branch exchange (PBX) and a first PBX phone with the first computer associated with the first PBX phone and with the first computer including a PBX Messaging Integration Client (PMIC) capable of placing and answering PBX calls without a PBX phone, routing incoming calls directed to PBX extensions to other devices, forwarding calls away from PBX phones to other devices, and placing calls on hold, with the PMIC associated with an individual, the call transfer method comprising the steps of:

transmitting to the PBX a first message for transferring a telephone call associated with the first PBX phone;

establishing a voice-over-IP session between the PBX and the first computer; and

replacing the telephone call to first PBX phone with a call to the first computer via the voice-over-IP session.

Serial No.: 10/750,795
Examiner: Knowlin Thjuan Addy

33. (original) The call transfer method of claim 32, wherein the first message is a CTI event message.

34. (previously presented) The call transfer method of claim 32, wherein the first message comprises a universal resource identifier associated with the first computer.

35. (original) The call transfer method of claim 32, wherein the step of establishing a voice-over-IP session comprises the steps of:

receiving a voice-over-IP session request message from the PBX; and
transmitting a voice-over-IP session acceptance message.

36. (original) The call transfer method of claim 35, wherein the session request message is an SIP INVITE message and the session acceptance message is an SIP OK message.

37. (previously presented) A call transfer method for a first computer operatively coupled to a system comprising a private branch exchange (PBX) and a first PBX phone, with the first computer including a PBX Messaging Integration Client (PMIC) capable of placing and answering PBX calls without a PBX phone, routing incoming calls directed to PBX extensions to other devices, forwarding calls away from PBX phones to other

Serial No.: 10/750,795
Examiner: Knowlin Thjuan Addy

devices, and placing calls on hold, with the PMIC associated with an individual, the call transfer method comprising the steps of:

transmitting to the PBX a first message for transferring a voice-over-IP session associated with the first computer and PBX; and

establishing a telephone call associated with the first PBX phone; and

terminating the voice-over-IP session between the PBX and the first computer.

38. (original) The call transfer method of claim 37, wherein the first message is a CTI event message.

39. (original) The call transfer method of claim 37, wherein the first message comprises an extension number associated with the first PBX phone.

40. (original) The call transfer method of claim 37, wherein the step of establishing the voice-over-IP session comprises the step of transmitting a private digital signals and voice (PDSV) signal to the first PBX phone.

41. (previously presented) A private branch exchange (PBX) call control method for a first computer operatively coupled to a system comprising a PBX and a first PBX phone, with the first computer including a PBX Messaging Integration Client (PMIC) capable of placing and answering PBX calls without a PBX phone, routing incoming calls directed to

Serial No.: 10/750,795
Examiner: Knowlin Thjuan Addy

PBX extensions to other devices, forwarding calls away from PBX phones to other devices, and placing calls on hold, with the PMIC associated with an individual, the PBX call control method comprising the steps of:

receiving from the PBX a first message indicating the presence of a telephone call associated with the first PBX phone; and

transmitting with the PMIC to the PBX a call control message.

42. (original) The PBX call control method of claim 41, wherein the first message is a CTI event message.

43. (original) The PBX call control method of claim 41, wherein the first message is a call hold command instructing the PBX to place the telephone call associated with the first PBX phone on hold.

44. (original) The PBX call control method of claim 41, wherein the first message is a call forward command instructing the PBX to transfer the telephone call associated with the first PBX phone to second phone.

45. (original) The PBX call control method of claim 44, wherein the second phone is a second PBX phone.

Serial No.: 10/750,795
Examiner: Knowlin Thjuan Addy

46. (original) The PBX call control method of claim 44, wherein the second phone is a voice-over-IP client.

47. (original) The PBX call control method of claim 46, further comprising the steps of:

transmitting to the PBX a first message for forwarding the telephone call associated with the first PBX phone to a voice-over-IP client;

establishing a voice-over-IP session between the PBX and the voice-over-IP client;
and

directing the telephone call to first PBX phone to the first computer interface via the voice-over-IP session.

48. (original) The PBX call control method of claim 41, wherein the call control message is an answer call command instructing the PBX to answer the telephone call using a second device.

49. (original) The PBX call control method of claim 48, wherein the second device is a second PBX phone.

50. (previously presented) A private branch exchange (PBX) call control method for a first computer operatively coupled to a system comprising a PBX and a first PBX phone,

Serial No.: 10/750,795
Examiner: Knowlin Thjuan Addy

with the first computer including a PBX Messaging Integration Client (PMIC) capable of placing and answering PBX calls without a PBX phone, routing incoming calls directed to PBX extensions to other devices, forwarding calls away from PBX phones to other devices, and placing calls on hold, with the PMIC associated with an individual, the PBX call control method comprising the steps of:

transmitting to the PBX a group of one or more messages comprising:

a command to the PBX to make a call to a first PBX phone, and

a telephone number of the first PBX phone; and

receiving a first message indicating the hook state of the first PBX phone.